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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,301	01/23/2002	James G. Sheek	27475/07001	7562
24024	7590	05/13/2005	EXAMINER	
CALFEE HALTER & GRISWOLD, LLP 800 SUPERIOR AVENUE SUITE 1400 CLEVELAND, OH 44114			ZIMMERMAN, JOHN J	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/055,301

Applicant(s)

SHEEK ET AL.

Examiner

John J. Zimmerman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7-16 and 18-29 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## FOURTH OFFICE ACTION

### *Amendments*

1. This Office Action is in response to the Amendment received February 11, 2005. Claims 1, 3-16 and 18-29 are pending in this application.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 19-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. It is not clear where support for the newly added claims can be found in the original disclosure and applicant has not pointed to support for the amendments in applicant's response. It is not clear where the original disclosure provides support for the limitations that the "concentration of the additional element is essentially the same as the concentration of the additional element in the

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metal-bearing color layer" (e.g. claim 19, lines 8-10), "PVD process in which a target is bombarded in a chamber to which are supplied one or more gases containing at least one additional element selected from carbon, nitrogen and oxygen" (e.g. claim 19, lines 3-5), "the supply of gases containing the additional element being gradually terminated during growth of the transition layer" (e.g. claim 19, lines 6-7; although Table 1 shows support for this embodiment for Zr deposited with gradual termination of acetylene and nitrogen, the pending claim language is broader in scope than this particular showing), "the PVD process before contact with the atmosphere contains only C, N, and the metal or metal alloy (e.g. claim 22).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 8, 10-12 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Naik (U.S. Patent 4,919,773).

6. Naik discloses an article having a graded/transitioned layer from a layer of a metal to a hard outer layer compound of the metal, e.g. boride, carbide, nitride or oxide of a Group III to Group VI metal, (e.g. see paragraph spanning columns 6 and 7). A metallic interlayer, e.g. palladium, platinum, nickel, chromium, etc. . . , can used (e.g. see column 5, lines 17-40).

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Various deposition processes may be used (e.g. see column 5, line 41 - column 6, line 34; CVD, PVD, etc. . .). Regarding the limitation in the claims that article must have a substantially transparent transition layer superimposed on a metal color bearing layer, Naik clearly provides for a transition layer culminating in a hard outer layer of aluminum oxide (see example 4 in the table in column 7). Aluminum oxide is substantially transparent and colorless to visible light. The rejected claims recite that the exterior first composition is a composition "comprising a metal" and since aluminum oxide comprises aluminum, Naik meets the limitations of the rejected claims. The term "comprising" allows for any additional unspecified constituents in a composition - even in major amounts, *Ex parte Davis et al.*, 80 U.S.P.Q. 448 (PTO Bd. App. 1948).

7. Claims 1, 3-4, 7-16 and 18-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Randhawa (U.S. Patent 5,037,517).

8. Randhawa discloses an article having a transparent layer of about 25-50 angstroms and two graded/transitioned layers (e.g. see Figure 3; claims 1-9; column 3, line 67 - column 4, line 44). One composition can be gold and another layer can be zirconium and/or zirconium carbonitride (e.g. see Table I). Although it is noted that applicant discloses that the first composition is exterior, Randhawa clearly discloses that the gold outer layer (10) will wear away and expose the transparent layer (16) which in turn will allow for the color layer (14) to show through (e.g. see column 3, line 67 - column 4, line 11). The examiner also notes that since the layered article of Randhawa is made in sequential coating steps, the intermediate article of

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Randhawa before the final gold coating step would anticipate the claimed article. Nontransitory intermediate articles in the prior art are actual physical articles that exist during production and therefore they can be used to reject claims. Thus, the transparent layer (16) of Randhawa will be the exterior layer after wearing of the initial gold outer layer and also during the manufacture of the article. Randhawa further discloses the use of adhesive intermediate layers (e.g. see column 3, lines 31-40). Regarding claim 20, the corrosion resistance of Randhawa would be expected to be the same as that of the claimed invention since the compositions of the layers and layer thicknesses are the same as those disclosed. Discovery of a new property or use of previously known composition, even if unobvious from the prior art, cannot impart patentability to claims to known composition, *In re Spada*, 15 USPQ2d 1655 (Court of Appeals, Federal Circuit 1990). Regarding the method steps in product claims 19-28, when there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show that the same process of making, see *In re Brown*, 173 U.S.P.Q. 685, and *In re Fessmann*, 180 U.S.P.Q. 324.

***Allowable Subject Matter***

9. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the rejection under 35 USC 112, second paragraph. The prior art does not disclose or make obvious the use of the claimed first compositions of these claims in the manner described in independent claim 1. Allowable subject matter having been indicated, applicant should submit formal drawings at this time.

***Response to Arguments***

10. Applicant's amendments and arguments filed February 11, 2005 have been fully considered but are not persuasive with regards to the pending rejections.

11. Applicant argues that the "Federal Circuit has made clear that "comprising is not a weasel word with which to abrogate claim limitations". A review of *Spectrum International Inc. v. Sterillite, Corp.*, 49 USPQ 2d 1065 (Fed. Cir. 1998), however, shows that *Spectrum* is addressing infringement issues involving an attempt at restoration of excluded subject matter in reexamination. The "comprising" issue in *Spectrum* involves the improper assertion by appellant of coverage of configurations whose physical possibilities are excluded by the claim limitations (i.e. abrogating claim limitations). The examiner's interpretation of the coverage of "comprising a metal" in the pending claims is that it allows for additional unnamed constituents other than "a metal". This does not in any way abrogate claim limitations. *Spectrum* is not relevant to the particular issues in this prosecution.

12. Applicant argues that a "metal is an element in a zero valence state" and that when "metal reacts with oxygen to form an oxide, that element is no longer a metal. Instead it is a cation". The examiner notes that for the sake of consistency, applicant arguments would then also necessarily and equally apply to the claimed "metal bearing color layer". Thus for the purposes of claim interpretation in this application, it appears that applicant intends to concede that the "metal bearing color layer" in the claims can only covers metal in a zero valence state and that

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the claimed "metal bearing color layer" does not include metal reacted with oxygen (or therefore nitrogen or carbon). This interpretation appears to conflict with the applicant's disclosure which appears to allow for color layers of metal compounds (e.g. ZrN). Clarification on this inconsistency is requested. Applicant has provided no reference or other evidence to support applicant's definition, but applicant's interpretation of "metal" would be carefully considered upon a showing of evidence of this definition. At this point, the examiner is not aware of any definition that states that metal becomes nonmetal when its valence state is not zero and therefore the rejections based on this point have been maintained. The examiner notes that aluminum oxide is a combination of aluminum metal that is compounded with oxygen. The aluminum constituent of the resultant compound is still "a metal". As long as the term "comprising" is used, there can be additional constituents besides metal in the layer. Contrary to applicant's statements, the claim language does not prohibit additional constituents from being compounded with the metal of the layer. The current claim language only requires that metal be present in the layer. The limitations of the claims must be given their broadest reasonable interpretation and applicant's use of "comprising" allows for an interpretation considerably broader than the interpretation presented in applicant's arguments. In order for applicant's arguments to be commensurate with the pending claim language, applicant may wish to amend "comprising a metal" to "consisting of a metal". The examiner notes that metal oxides are clearly "metal bearing" materials. Applicant's arguments are at odds with the applicant's use of the term "comprising" since "comprising" has been defined by the courts to allow for any additional unspecified constituents in a composition - even in major amounts, *Ex parte Davis et al.*, 80 U.S.P.Q. 448 (PTO Bd. App. 1948).



13. Regarding the rejection of claims under 35 U.S.C. 102(b) as being anticipated by Randhawa (U.S. Patent 5,037,517), applicant argues that neither transition zone 17 nor transition zone 19 of Randhawa has an exterior first composition and is superimposed on a metal bearing color layer. The examiner again notes, however, that Randhawa clearly discloses that the gold outer layer (10) is disclosed to wear away and expose the transparent layer (16) which in turn will allow for the color layer (14) to show through (e.g. see column 3, line 67 - column 4, line 11). Both graded layer 19 and graded layer 17 of Randhawa are thin transparent layers wherein the exterior most composition of the graded layer is a metal. Both layers are superimposed on the color layer 14. The term "superimposed" merely means that the layer occurs over or above another layer (e.g. see Webster's New Collegiate Dictionary, 1977) and both the graded layers 19 and 17 are clearly over or above the color layer 14.

### ***Conclusion***

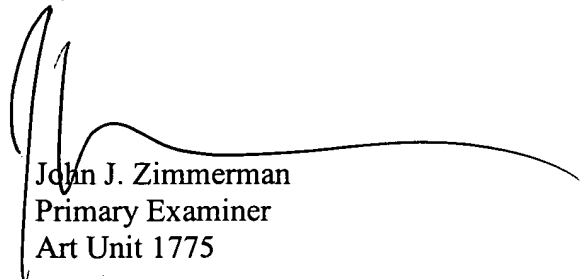
14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman  
Primary Examiner  
Art Unit 1775

jjz  
May 11, 2005